

U.S. Fish & Wildlife Service
Federal Building, Fort Snelling
1 Federal Drive
Twin Cities, MN 55111-4056

TTY users may reach the fire program
through the Federal Information Relay
Service at 1 800/877-8339

Fire Management: www.fire.fws.gov
National Interagency Fire Center: www.nifc.gov
Firewise (Sponsored by the National Wildland/Urban
Interface Fire Program): www.firewise.org

U.S. Fish & Wildlife Service
1 800/344 WILD



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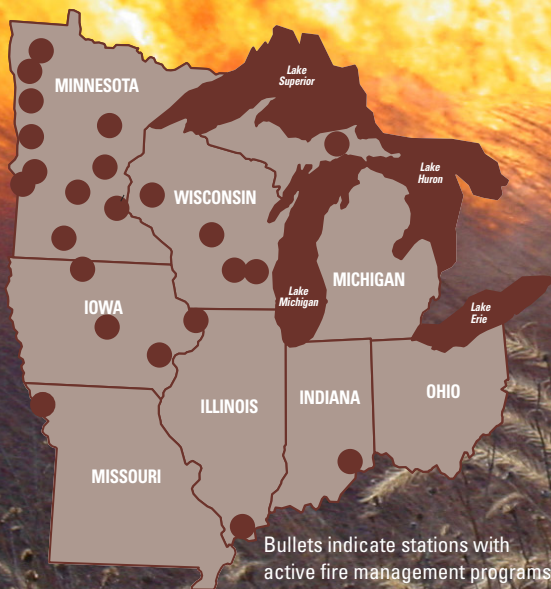
Wildland Fire Management in the Midwest

*Keeping Fire
On Our Side*



Prescribed fire at Two Rivers NWR.
Debra Kuhn, USFWS

*Prescribed fires on U.S.
Fish & Wildlife Service
refuges and wetland
management districts
help both wildlife and
people in the Midwest
Region.*



Wildland Fire - Friend or Foe?

What comes to mind when you hear the word “fire?” Warmth, danger, excitement, power? People have a love-hate relationship with fire, and for good reason. Under the right conditions, fire can be useful, enjoyable, and even necessary for survival. However, at the wrong time and place, it can be destructive and life-threatening.

It's Only Natural

Historically, wildfires played a critical role in the natural systems of the Midwestern landscape.

Along with grazing animals like bison, fire kept the tallgrass prairie in present-day Minnesota, Wisconsin, Iowa, Illinois, and Missouri healthy. It is estimated that, before European settlement, the tallgrass prairie had a natural burn interval of four to five years. Fire consumed dead vegetation and returned nutrients to the soil, benefiting native grasses and wildflowers. It also kept shrubs and trees from invading the open grasslands. Quite simply, it maintained the integrity of the prairie.

Along the Great Lakes, jack pine forests also depended on fire for survival. Jack pine not only evolved to withstand fire, but actually need it to regenerate. This species' seeds are protected from flames inside sturdy, sealed cones, which remain on the branches. The heat from a fire melts the cones' waxy coating, releasing seeds onto the freshly re-charged soil after the fire has passed. Jack pine stands typically burn once every 30 to 50 years.

Controlled, or “prescribed,” burns are used by land managers to improve wildlife habitat and reduce risk of dangerous fires through the reduction of hazardous fuels. Wildfires, on the other hand, can threaten life and property with little notice, if they occur near residential areas. The U.S. Fish & Wildlife Service works to make fire a positive force. You can do your part by “fire proofing” your home and property. Together, we can keep fire on our side.

Finishing up ignition on a prescribed fire at Two Rivers NWR. Don Wiley, USFWS





State historical marker erected at the Peshtigo Fire Cemetery in 1951, ©Deana C. Hipke

A Dangerous Combination

As towns were established in the Midwest during the 1800s, disaster began to strike. In the North Woods, debris left from extensive logging fueled deadly fires. In 1871, the Peshtigo Fire burned nearly four million acres in Michigan and Wisconsin, killing more than 1,500 people. In 1894, the Hinckley Fire in east-central Minnesota destroyed six towns and ravaged 256,000 acres in just four hours. More than 400 people died.

Wildland/Urban Interface



A carefully planned prescribed fire at Sherburne NWR reduces risk of wildfire to nearby homes. USFWS

Population trends in the late 20th century have set the stage for more fire-related disasters. Many people are leaving cities and relocating to more rural areas. Public safety officials and natural resource managers are concerned about a new phenomenon – the Wildland/Urban Interface. In this zone, homes are interspersed with undeveloped land, creating a potentially volatile situation. As more people choose to live in rural locations, safely managing fire on the natural landscape is becoming more difficult, and more crucial.

Goose leads goslings to WPA, S. Affeldt, USFWS

A Year of Fire in the Midwest*

40.....Number of wildfires
450Number of prescribed fires
70,000.....Number of acres the Fish & Wildlife managed with prescribed fire

** The above figures are a 10-year average for national wildlife refuges and wetland management districts in Region 3.*



Prairie showing generous re-growth 3 weeks after a prescribed fire. Juancarlos Giese, USFWS

Prescription for Healthy Habitat & Human Safety

Each year, U.S. Fish & Wildlife Service (Service) staff use controlled burns to restore and maintain wildlife habitat on up to 10 percent of the National Wildlife Refuge System lands throughout the Midwest. In doing so, they also serve refuge neighbors by reducing hazardous conditions, like dead and downed trees, brush, and extensive areas of thick, dead grass. Prescribed fires on refuges and waterfowl production areas help both wildlife and people.



Properly timed prescribed fire greatly benefits native grasses and wildflowers at Glacial Ridge NWR. USFWS

Prescribed burns rejuvenate the prairie. They rid it of accumulated, dead vegetation and stimulate new plant growth. Native grasses and wildflowers, which evolved with fire, benefit from nutrients returned to the soil during a burn. They often produce more seeds and re-grow in greater abundance. Non-native grasses and woody vegetation, on the other hand, are often negatively impacted (set back) by properly timed fires. In addition to promoting vegetative species diversity in native prairie, regular burning helps resource managers successfully restore native vegetation to tracts of land that were previously agricultural crops.



In addition to its ecological value, prescribed fire serves the interests of the local community. Burning removes dead vegetation accumulations that can feed a dangerous wildfire. Through regular burning, this “fuel load” is reduced, lowering the chances of an unintended fire and providing a safety buffer if one should start elsewhere. Used in conjunction with other management tools, burning can reduce the coverage of noxious weeds, like leafy spurge and Canada thistle.

Service staff also work beyond refuge boundaries to help local communities manage fire. Refuge firefighters often respond to off-site wildfires to protect people and property. The Rural Fire Assistance Program provides funding (when available) to local fire departments that sometimes assist with fighting wildfires on refuge lands.



Preparing for a prescribed fire at Big Oaks NWR.
USFWS

Prescription for Success

A prescribed burn is a carefully planned and executed event. Long before a match is struck, fire personnel complete a unit-specific Prescribed Burn Plan, which outlines the targeted tracts of land. They also create fire breaks to contain the planned fire and prevent a runaway blaze. Fire staff carefully time burns for days with weather conditions that are conducive for an effective fire. Air temperature, humidity, wind speed and direction, and vegetation moisture content must all be “within prescription” before personnel start a controlled burn.



Briefing firefighters prior to igniting a prescribed fire in the Iowa WMD.
USFWS

On the day of the burn, equipment and trained personnel are assembled at the site. After confirming that weather conditions meet the requirements, the “burn boss”, a specially qualified fire manager, gives the go-ahead and oversees the burn. Local emergency personnel and refuge neighbors are notified, and the burn is monitored closely.

Checklist For a Safe, Efficient, Prescribed Fire

- ✓ Complete Prescribed Burn Plan
- ✓ Construct fire breaks
- ✓ Assemble equipment and trained crew
- ✓ Check conditions
 - air temperature
 - humidity
 - wind speed and direction
 - moisture content of vegetation to be burned
- ✓ Notify emergency personnel and refuge neighbors
- ✓ Set test fire to confirm conditions
- ✓ Conduct burn with constant site supervision
- ✓ Secure burn perimeter



Using a tracked vehicle to ignite a prescribed fire at Agassiz NWR.
USFWS

(Left) Firefighter controls the fireline at a prescribed fire on Dengerud Waterfowl Production Area located in the Litchfield WMD.



A Friendship Based on Respect

Fire can be an influential ally or an awesome opponent. Like any great power, it must be respected and managed with care. Thoughtful preparation and action by public managers and private property owners can help keep its effects positive.

Living with Fire

Along with the pleasure of living among wild lands comes the responsibility of preparing for a wildfire. Homeowners should take steps to protect themselves and their properties. From construction to maintenance, there are things you can do to make your home fire-resistant and increase the odds that it will still be standing once a wildfire has passed.

Be a FireWise Homeowner

Select a safe site!

When buying or building your home, choose a level location at least 30 feet from a ridge or cliff.

Create a defensible space!

Clear an area 30 feet wide around your home. Remove dry grass, brush, dead leaves, and pine needles. Replace highly flammable plants with fire-resistive, high-moisture ones. Re-locate wood piles away from structures. Keep trees pruned.

Make your roof, walls, and windows fire-resistant!

If you have wood shakes, treat or replace them with non-combustible materials. Replace plate glass with tempered.

Install screens on chimneys, vents, eaves, and gutters!

Flying sparks can enter through any opening. Keep gutters free of leaves, pine needles, and debris.

Check all structures!

Wooden decks, fences, and trellises can act as ignition points and lead fire to your house. Clean leaves and debris from under patios. Consider building ground-level terraces. Don't attach a wooden fence to your house.

Be accessible!

Make sure your driveway is well marked and wide enough for fire equipment to enter.